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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,925	12/13/2006	Walter J. Symes	FER-16079.001.001.001	6637
7609 7590 03/09/2010 RANKIN, HILL & CLARK LLP 23755 Lorain Road - Suite 200 North Olmsted, OH 44070-2224			EXAMINER WIESE, NOAH S	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 03/09/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,925	<b>Applicant(s)</b> SYMES ET AL.	
	<b>Examiner</b> NOAH S. WIESE	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 2,5 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-11 in the reply filed on 11/19/2009 is acknowledged. The traversal is on the grounds that there would not be an undue search burden in searching all three groups. This is not found persuasive because searching three the three different compositions given in the three groups, along with the distinct product and process claims of groups I and III would constitute searching divergent and non-overlapping subject matter. Doing so would, in fact, create a serious burden. Thus, restriction between the three groups is warranted. Restriction is further required because of the patentable distinctness of the three groups. Thus, applicant's contention in this matter is not persuasive.

The requirement is still deemed proper and is therefore made FINAL.

### ***Status of Application***

2. The claims 1-20 are pending and presented for the examination. Claims 1-11 are elected for examination on merits and claims 12-20 are withdrawn from consideration by the election filed 11/19/2009.

### ***Information Disclosure Statement (IDS)***

3. The information disclosure statements (IDS) were submitted on 01/24/2007 and 02/20/2007. The submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner. Please refer to applicant's copy of the 1449 herewith.

***Claim Objections***

4. Claims 2, 5, and 7 are objected to because of the following informalities: the method steps and components of the claims are designated by letters, but the lettering does not begin with “a”, but rather continues from the proceeding claim. Lettering the steps in this way is confusing as it makes the steps appear to be a continuation in method from the previously claim, which is not the case in any of claims 2, 5, or 7. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 2005/0128683).

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Regarding **claim 1**, Watanabe et al teaches a dielectric ceramic composition used as the solids portion in a dielectric paste, said ceramic being represented by the formula  $((\text{Ca}_{1-x}\text{Me}_x)\text{O})_m(\text{Zr}_{1-y}\text{Ti}_y)\text{O}_2$  (see claim 1 and paragraph 0111). In the formula "Me" can be Sr, and the constants x and y can vary between 0 and 1 inclusive. Thus, the formula encompasses  $\text{SrO}$ ,  $\text{ZrO}_2$ , and  $\text{TiO}_2$  in ranges that overlap the ranges of the instant claim. Watanabe further teaches that the ceramic composition comprises a component containing  $\text{MgO}$  and  $\text{B}_2\text{O}_3$  (see claim 1), said component being present in an amount of 0-20 mol%. Thus, these two components would be present in the Watanabe composition in amounts overlapping the ranges of the instant claim. Because the dielectric paste taught by Watanabe overlaps the composition of that of the instant claims, routine optimization and experimentation with the Watanabe ranges would lead one of ordinary skill in the art to the instantly claimed composition. Per MPEP 2144.05, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. Therefore, claim 1 is obvious and not patentably distinct over the prior art of record.

Regarding **claim 2**, Watanabe teaches that the inventive dielectric paste is applied to a sheet (substrate) and fired (see paragraphs 0115 and 0117).

Regarding **claim 3**, Watanabe teaches a firing temperature of  $1250^\circ\text{C}$  (see paragraph 0117).

Regarding **claim 4**, Watanabe teaches that firing is carried out in an atmosphere having an oxygen partial pressure of  $10^{-7}$  -  $10^{-3}$  Pa ( $9.9 \times 10^{-13}$  -  $9.9 \times 10^{-9}$  atm). Per

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MPEP 2144.05, in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists.

Regarding **claims 5-6**, Watanabe teaches a ceramic chip capacitor comprising the inventive ceramic paste, said capacitor comprising stacked layers of the dielectric material and layers of electrodes made from nickel and copper (see paragraphs 0111 and 0112).

Regarding **claim 7**, Watanabe teaches that the capacitor chip is made by alternately applying layers of the inventive dielectric material and of nickel/copper onto a substrate to form a stack (see paragraphs 0115-0116), cutting and separating said stack, and firing (see paragraph 0117). Thus, all of the steps of instant claim 7 are taught by Watanabe, with the sintering of the metal electrode and dielectric layers occurring simultaneously. Therefore, claim 7 is obvious and not patentably distinct over the prior art of record.

Regarding **claim 8**, Watanabe teaches that the thickness of the dielectric layers after firing is 4 microns (see paragraph 0118).

Regarding **claim 9**, Watanabe teaches a firing temperature of 1250°C (see paragraph 0117).

Regarding **claim 10**, Watanabe teaches that firing is carried out in an atmosphere having an oxygen partial pressure of  $10^{-7}$  -  $10^{-3}$  Pa ( $9.9 \times 10^{-13}$  -  $9.9 \times 10^{-9}$  atm). Per MPEP 2144.05, in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists.

Regarding **claim 11**, Watanabe teaches that the electrodes comprise nickel (see paragraph 0112).

### ***Conclusion***

8. No claim is allowed.
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Noah S. Wiese whose telephone number is 571-270-3596. The examiner can normally be reached on Monday-Friday, 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Noah Wiese  
3 March 2010  
AU 1793

/Karl E Group/  
Primary Examiner, Art Unit 1793